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Segond fracture and the anterolateral complex of the knee is still controversial

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Faculty Disclosure Information

- Nothing to disclosure

Purpose: This study aimed to investigate the relationship between the Segond fracture and the anterolateral complex of the knee.

Methods: Between January 2021 and August 2024, patients who presented with an acute anterior cruciate ligament (ACL) rupture and an associated Segond fracture were included. A 1-cm incision, which was just posterior and proximal to Gerdy's tubercle, was exposed in all cases. Once the Segond fracture was identified, it was photographed and fixed with a 5.0-mm suture screw. Post-operative CT and MRI were examined to check the reduction and the possible ligament attachment of the Segond fracture.

Results: Sixteen patients were enrolled in this study. Dissection of the Segond fracture demonstrated no connections to the iliotibial band (100%, 16/16). The Segond fracture is 9.3 ± 2.1 mm posterior and 7.1 ± 1.6 mm proximal to the Gerdy's tubercle. The proximal attachment of the Segond fracture could not observed during the operation. All cases could notice the perfect reduction of the fracture via the post-operative CT scan. Meanwhile, 87.5% (14/16) of cases could notice the proximal attachment of the Segond fracture in the lateral meniscus through a ligament via the post-operative MRI.

Conclusion: Careful dissection of Segond fractures during repair revealed no connections between the iliotibial band and the bone injury. Meanwhile, the post-operative MRI could identify the Segond fracture involving the anterolateral meniscotibial ligament in the majority of cases.

Clinical Relevance: The exact cause of Segond fractures has been a topic of discussion because of the complex anatomy of the anterolateral aspect of the knee. Understanding the anatomy of Segond fractures is crucial for better treatment of ACL rupture. The Segond fracture is essentially a clear ligamentous avulsion itself and should be treated as such.